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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,267	09/30/2002	Paul Cheng	60409.300903	5677

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EXAMINER

OSBORNE, LUKE R

ART UNIT	PAPER NUMBER
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2163

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/065,267	Applicant(s) CHENG ET AL.	
	Examiner Luke Osborne	Art Unit 2163	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Applicant is advised that should claims 1-13 be found allowable, claims 14-26 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-13, 17, and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 4, 10, 17, 23 the phrase "potential" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase merely have the potential to do so or actually do so. See MPEP § 2173.05(d).

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Regarding claims 1, 3, 4, 5, 6, 8, 9, 10, 11, 12 the phrase "able to" renders the claim indefinite because it is unclear what "able to" comprises. See MPEP § 2173.05(d).

Claim 4 recites the limitation "said hash value" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Any claim not directly rejected on 112, 2nd stands rejected due to its dependency.

The art rejections of the claims rejected above under 112, 2nd paragraph are applied as best understood in light of the rejection under 112, 2nd paragraph discussed above.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 14-18 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,182,799 to Tamura et al. hereafter "Tamura".

Regarding claim 1, Tamura teaches a search engine. See Figures 4, 9 and the corresponding portions of Tamura's specification for this disclosure. In particular Tamura teaches, " A search engine, comprising:

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- a controller able to provide a search value representing a search result [Figure 4, item Control Unit, Column 4, lines 24-42];
- a memory able to store a search database of said search results and to provide instances of said search results to said controller [Figure 4, item 611, Column 4, lines 24-42];
- a hash-CAM sub-circuit (H-CAM) including [Figure 4]:
 - a hash unit able to receive said search value from said controller and generate a hash output based there on [Figure 4, item 601];
 - a CAM unit [Figure 4, item 602] able to store a CAM database of instances of said search values known to cause hash collisions in said hash unit [Column 3, lines 37-47], to receive said search value from said controller [Column 4, lines 43-49], and to match said search value against said CAM database such that a CAM output is provided if a match exists [Column 5, lines 5-36]; and
 - a logic unit able to receive said hash output and said CAM output [Figure 4, item 605], to create an address value based on said CAM output if a said match exists [Figure 4, item 603: Hit Detector] and otherwise to create said address value based on said hash output [Column 6, lines 17-30], and to provide said address value to said memory, wherein said address value represents an address in said

memory, thereby permitting detection and resolution of hash collisions when searching said search database of said search results in said memory [Figure 4, item 62]" as claimed.

Regarding claim 2, Tamura teaches the search engine of claim 1, "wherein said hash unit is programmable to employ different hash algorithms [Column 12, lines 52-56]" as claimed.

Regarding claim 3, Tamura teaches the search engine of claim 1, "wherein said controller is further able to program said CAM unit with new entries in said CAM database, thereby permitting programming to detect and resolve new hash collisions [Column 5, lines 5-36]" as claimed.

Regarding claim 4, Tamura teaches the search engine of claim 1, "wherein said logic unit is further able to create a hash-address based on said hash value and an offset value, and to instead create said address value based on a pointer value and a hash hit signal [Column 6, lines 5-30], and said H-CAM further includes:

- a search data storage [Figure 4, item 611] able to store a plurality of hash pointer values and a plurality of search data values, wherein said hash pointer values represent potential instances of said hash outputs and said search data values represent potential instances of said search values [Column 10, lines 11-29];

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- said search data storage further able to receive said hash address from said logic unit, to retrieve a said hash pointer value based on said hash address, to provide said hash pointer value to said logic unit as said pointer value, and to retrieve a said search data value based on said hash pointer value [Column 7 lines 52-60]; and

- a comparator [a comparison between the identifier of the packet inputted to the first data latch 608 and the identifier latched in the second data latch 609 which has been read out from the hash memory 601.

[Column 9, lines 28-31] able to receive and compare said search value and said search data value to determine whether a match exists [This means that the match detector 603 detects whether or not a hashed address conflict has occurred], and, if a said match exists, to provide said hash hit signal to said logic unit [Figure 4, HIT], thereby permitting said memory to not store any instances of said search values in said search database yet still permit the search engine to detect and resolve hash collisions” as claimed.

Regarding claim 5, Tamura teaches the search engine of claim 1, “wherein said logic unit is further able to generate a search hit signal based on said hash hit signal and whether a said match exists in said CAM unit, and to provide said search hit signal to said controller [Figure 4, HIT].

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Claims 14-18 recite substantially duplicate limitations of claims 1-5, and are thus rejected for the same reasons as claims 1-5

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 6-13, 19-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patent No. 5,182,799 to Tamura et al. hereafter "Tamura".

Claims 6-13 are considered to be mere duplication of parts of claims 1-5 and therefore obvious and thus are rejected with the art applied to claims 1-5 and in light of In re Harza, 274 F.2d 669, 124 USPQ 378 (CCPA 1960). Claims containing limitations

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with duplication of parts have no patentable significance unless a new and unexpected result is produced.

Regarding claim 6-13, the Applicant fails to show how the duplication of parts present in claims 6-13 produce a new and unexpected result over claims 1-5 or the prior art.

Claims 19-26 are substantially duplicate of claims 6-13, thus are rejected for the same reasons as claims 6-13 above.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO form 892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luke Osborne whose telephone number is (571) 272-4027. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on (571) 272-4023. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LRO
2/18/05



UYEN LE
PRIMARY EXAMINER